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A New Species of *Anoplonyx* (Hymenoptera, Tenthredinidae) Feeding on Larch in Northern Japan

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Abstract *Anoplonyx orientis* is described from northern Japan. It was found damaging larch, *Larix leptolepis*.

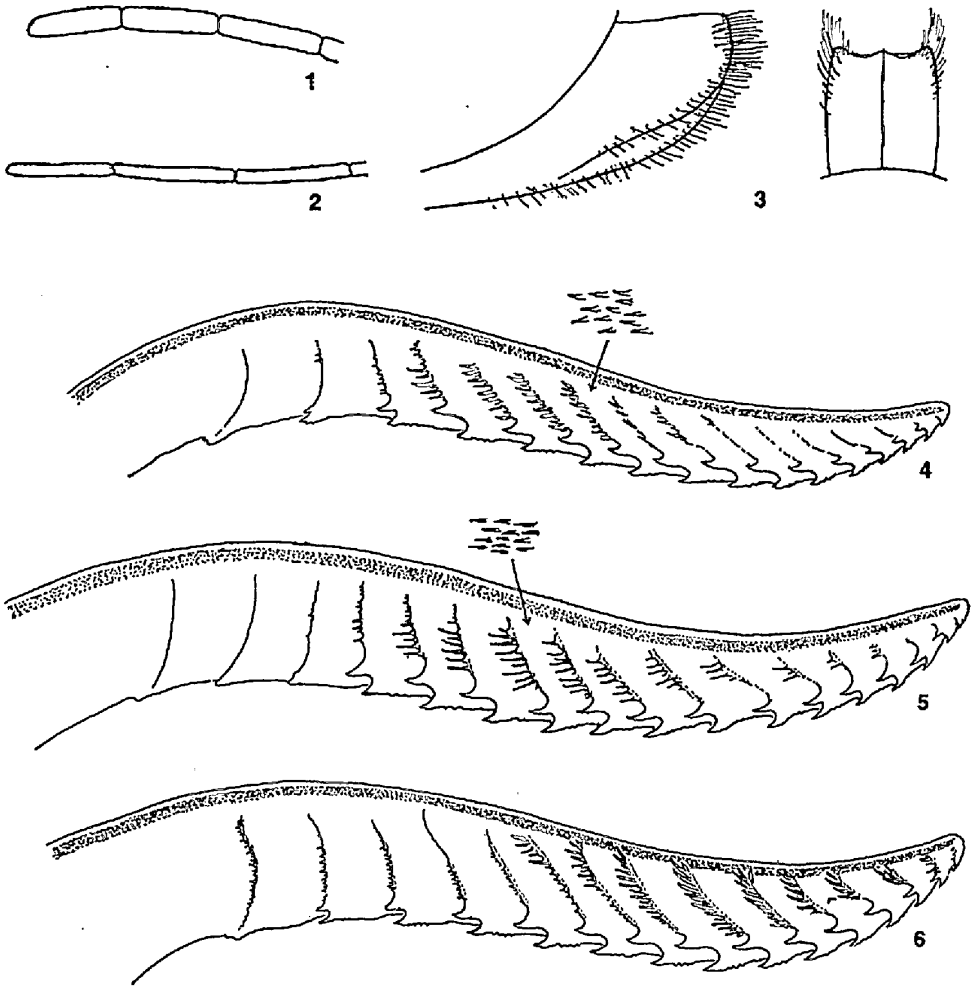
Sawflies damage or kill extensive areas of larch annually throughout the world, resulting in considerable monetary losses in stands of this important timber tree. A new species of larch-feeding sawfly from northern Japan is herein described, based on specimens sent to me by Hideho HARA, Hokkaido Forest Experiment Station, Bibai, Hokkaido, Japan, who reared them from larvae feeding on *Larix*. They belong to the genus *Anoplonyx*, all species of which are associated with *Larix*. OKUTANI (1971) first recorded *Anoplonyx* from Japan. He identified his species (from Nagano Prefecture, Honshu) as *A. destructor* (BENSON), mentioned that he had specimens of an additional species, and stated that two or three additional species of the genus may occur in Japan. One of these species may be the one described below, but examination of the specimens OKUTANI studied will be necessary to determine which species he was referring to and if his identification of *A. destructor* is correct.

Anoplonyx orientis SMITH, n. sp.

(Figs. 3–4)

Female. Length, 4.3–5.0 mm. Black; apex of mandible dark reddish; following brownish to brownish orange: most of pronotum laterally, tegula, broad stripe on posterior margin of mesepisternum and sometimes center of mesepisternum, apical 2 or 3 abdominal segments entirely or sometimes suffused with black, base of sheath, legs (except most of coxae and tarsi black). Wings hyaline; veins brown; costa, anterior surface of subcosta, and stigma of forewing amber.

Antennal length about 2× head width and shorter than costa of forewing; 8th segment about 3–3.5× longer than broad (as in Fig. 1). Malar space nearly 2× diameter of front ocellus; postocellar area about 3× broader than long, with anterolateral corner distant from hindocellus; distances between eye and hindocellus, hindocelli, and hindocelli and posterior margin of head as 1.4: 1.4: 0.9. Forewing lacking crossvein 2r–m. Sheath (Fig. 3) in dorsal view slightly emarginate at apex, its width slightly broader than apical width of hindtibia; in lateral view rounded



Figs. 1–6. *Anoplonyx*. —— 1. Apical 3 antennal segments of *A. ovatus*. —— 2. Apical 3 antennal segments of *A. destructor*. —— 3. Sheath, lateral and dorsal view of *A. orientis*. —— 4. Lancet of *A. orientis*. —— 5. Lancet of *A. ovatus*. —— 6. Lancet of *A. destructor* (paratype).

ventroapically. Lancet as in Fig. 4, with no or few short spines on annuli 1–3, long slender spines on annuli 4–9, and no apparent spines on annuli 10 to apex; surface, especially dorsocentral area, covered with numerous short spines; annuli 2 and 3 not parallel.

Male. Unknown.

Larva. Late instar length, ca. 10.0 mm. Head and legs amber, body slightly lighter amber (probably green when alive); larger larvae with a faint, single longitudinal dorsal stripe and a faint, single longitudinal supraspiracular stripe on each side. Body stripes very faint to non-existant in smaller larvae. Upper frontal area brown to blackish in some specimens.

Holotype: ♀, "Azuma, Iburi, Hokkaido, S. SUZUKI," "27. VI. 1984 col. larva, pup. 16. VII. 84, em. 9. V. 85," "Host *Larix leptolepis* GORDON." Deposited

in the Entomological Institute, Faculty of Agriculture, Hokkaido University, Sapporo.

Paratypes: [Japan] Same data as for holotype (5 ♀); same data as for holotype except "pup. 13. VII. 84" (1 ♀); same data as for holotype except no "pup." date (2 ♀); Biei, Kamikawa, Hokkaido, 23. V. 1985, H. HARA (4 ♀); Biei, Kamikawa, Hokkaido, em. IV. 1984, Y. HIGASHIURA, host *Larix leptolepis* GORDON (1 ♀); Hokkaido, Hayakita, 17. V. 1985, Y. HIGASHIURA, H. HARA (1 ♀); Hokkaido, Bibai, 21. V. 1985, S. SUZUKI, H. HARA (1 ♀); Hokkaido, Bibai, 10. V. 1985, H. HARA, yellow pan (1 ♀); Morioka, Honshu, VI. 1975, H. SATO (2 ♀). Deposited at Hokkaido University; Hokkaido Forest Experiment Station, Bibai; National Science Museum (Nat. Hist.), Tokyo; Ishikawa Agricultural College, Ishikawa Prefecture; and National Museum of Natural History, Smithsonian Institution, Washington, D. C.

Distribution. Japan: Hokkaido, Honshu.

Host. Reared from larvae feeding on *Larix leptolepis* GORDON.

Discussion. The only sources for identification of Eurasian *Anoplonyx* are the keys to four species by BENSON (1952) and to five species by VIKBERG (1975) who described an additional species, *A. versicolor*. *Anoplonyx orientis* goes to *A. ovatus* (ZADDACH) in both keys. Both species have similar stout antennae (shorter than the costa of the forewing and segment 8 only about 3–4× longer than broad, Fig. 1), a short postocellar area (about three times broader than long with the anterolateral corner distant from the hindocellus), and lack crossvein 2r–m in the forewing. The antenna of *A. destructor*, *A. duplex* (LEPELETIER), and *A. pectoralis* (LEPELETIER) is longer than the costa of the forewing and segment 8 is 6–7× longer than broad (Fig. 2), all other species have a longer postocellar area, about two times broader than long with the anterolateral corner adjacent to the hindocellus, and *A. duplex* and *A. pectoralis* have crossvein 2r–m in the forewing. *Anoplonyx orientis* differs from *A. ovatus*, however, by the emarginate female sheath in dorsal view (subtruncate in *A. ovatus*), the brownish marks on the mesepisternum (black in *A. ovatus*), the mostly black venter of the abdomen except the apical 2 or 3 segments (sometimes mostly brownish in *A. ovatus*), almost entirely orange to brown pronotum (sometimes only hind margin pale in *A. ovatus*), and the lancet (compare Figs. 4, 5) which has the basal annuli parallel and some long slender annular spines on some annuli apical to the ninth in *A. ovatus*.

This species also appears close to *A. destructor* because of the absence of crossvein 2r–m in the forewing, but *A. destructor* has longer, more slender antennae (Fig. 2), a mostly black thorax, and the structure of the lancet differs in having long annular spines concentrated on the apical half of the lancet, the basal 5 or 6 annuli with only very short spines, and lacking numerous short spines on the surface (compare Figs. 4, 6).

The larva of *A. orientis* is similar to the larvae of *A. ovatus*, *A. destructor*, and *A. versicolor* in having an amber head and legs and greenish body with dark longi-

tudinal stripes. However, it differs from all three species by the single dorsal light brown stripe in addition to the single supraspiracular brownish stripe. The larva of *A. ovatus*, described and illustrated by PSCHORN-WALCHER and ZINNERT (1971), has only the lateral dark stripe; the larva of *A. destructor*, described by CROOKE (1953), PSCHORN-WALCHER and ZINNERT (1971), and VIKBERG (1975), has two distinct broad dark stripes on each side, one supraspiracular and one subdorsal; and the larva of *A. versicolor*, described by VIKBERG (1975) has the supraspiracular stripe present only on the abdominal segments, the subdorsal stripe very weak and partly incomplete, and the anal tergite with two subapical brownish black flecks. Larvae of *A. pectoralis* and *A. duplex* have the vertex and frontal area of the head mostly dark brown and the body brown and black spotted.

The new species does not fit any of those described by VERZHUTSKII (1966 a, b) from Siberia. He described four species, *A. duplex* and *A.* spp. I, II, and III. The larva of *A. orientis* is closest to *A.* sp. I, but the adult he described for that species (1966 b) has a yellow thorax and has the venter of the abdomen pale.

All species of *Anoplonyx* are very similar in color and structure, and a study of the world species is needed, based on reared specimens and larvae from all parts of Eurasia and North America. More emphasis probably needs to be placed on lancet and male genitalic characters rather than antenna, color, head sculpturation, and wing venation, though all may prove to be helpful in species separation. Until that time, BENSON's and VIKBERG's studies remain the only definitive works.

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